From evidence to practice:

Interdisciplinary guidelines to integrate health into urban planning processes

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Healthy Cith Design, London, 14 October 2019
Our health is determined by socio-economic, cultural and environmental factors and public policies.
Irene Martín

Our health depends on our environment.

23% of all global deaths are linked to the environment.
That’s roughly **12.6 million deaths** a year.

- **Air pollution** including indoors and outdoors
- **Inadequate water, sanitation** and hygiene
- **Chemicals** and biological agents
- **Radiation** ultraviolet and ionizing
- **Community noise**
- **Occupational risks**
- **Climate change**
- **Built environments** including housing and roads
- **Agricultural practices** including pesticide-use, waste-water reuse

World Health Organization

ISGlobal Instituto de Salud Global Barcelona
How Urban Environment Impacts our Health

Health conditions associated with air pollution, noise and heat, and a lack of physical activity and natural spaces

Air pollution
Noise
Heat
Lack of physical activity
Lack of natural spaces

All

HEAD
Dementia
Cognitive impairment
Neurodegenerative diseases
Mental health problems
Stroke
Cerebrovascular diseases
Autism and child behaviour problems
Tinnitus or deafness
Reduction of cognitive performance

BREAST
Breast cancer

GENERAL/OTHERS
Obesity
Diabetes
Metabolic syndrome
Nuisance, stress
Sleep disorder
Injuries from work and traffic accidents
Colon cancer
Systemic inflammation
Worse general health
Increase in mortality

RESPIRATORY TRACT
Chronic Obstructive Pulmonary Disease (COPD)
Asthma
Respiratory diseases
Pneumonia
Lung cancer

HEART
Myocardial infarction
Arrhythmia
Heart congestive failure
Cardiovascular diseases

REPRODUCTIVE SYSTEM AND FETUS
Premature birth
Reduced weight at birth
Preclampsia
Reduction in sperm quality

CIRCULATORY SYSTEM
Hypertension
Deep venous thrombosis

ISGlobal
#CitiesWeWant

Air pollution
Noise
Heat
Lack of physical activity
Lack of natural spaces
The drivers of health in cities must come from outside the health sector.

Designers, architects and urban and transport planners have a critical opportunity to protect and promote health.
HOW?

A multisectoral approach from Catalunya
947
MUNICIPALITIES
4
PROVINCES
1
METROPOLITAN AREA
7,6 M
POPULATION
Strategic Environmental Assessment as a mechanism to improve health

What is the Strategic Environmental Assessment (SEA)?

Facilitator of strategic decisions whose ultimate goal is the promotion of sustainability in policies, plans and programmes (Partidario, 2008; Bina, 2007).

Main objective

Achieve full integration of environmental and health requirements in the preparation and adoption of those plans and programmes that can have significant repercussions on the environment and health.

Strategic Environmental Assessment as a mechanism to improve health

Strategic environmental assessment (SEA) for spatial planning, towns and regional and sectorial planning for more than 15 years

Strategic level and approach

Health and environment are two sides of the same coin.

A new strategy is needed !!!
Conceptual framework for the relationship between urban and transport planning, environmental exposures and human health
The Strategy for Sustainability & Health in Planning

The motivation

Our health depends on our environment

Planning can drastically reduce the number of deaths

23% premature deaths depend on the environment in which we live

Model change through planning enabled by SEA
The Strategy for Sustainability & Health in Planning

The motivation

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Model change through planning enabled by SEA

Priority
Change the urban and mobility model through planning to improve health and environment in an integrated and effective way
Sustainability-health in planning strategy

- Political support & encouragement
- Communication
- Training and tools
- Inter and intra administrative collaboration
- Evidence integration
- Coordination
The Strategy for Sustainability & Health in Planning

Territory and Sustainability Dept.
- Coordination
- Urban planning
- Mobility
- Training

Health Department
- PINSAP Coordinators
- Leaders integration health and sustainability
- Interdisciplinar work

Inter-administrative coordination & work
- Provincial Council of Barcelona
- ATM
- INCASOL
- AMB

Dissemination and public presence

Knowledge transfer
- WHO
- ISGLOBAL
- European Environment Agency

Generalitat de Catalunya
Tool to assist city planners to incorporate measures that promote and protect health and wellbeing through SEA

Sustainable and healthy planning

AIR POLLUTION  NOISE  NATURAL SPACES  PHYSICAL ACTIVITY  TEMPERATURE
Tool to assist city planners in incorporating measures that promote and protect health and wellbeing through SEA

1. Oriented towards towns and cities with more than 25,000 people in a Mediterranean context (represents more than 70% of population in Catalonia)
Tool to assist city planners to incorporate measures that promote and protect health and wellbeing through SEA

1. Based on an extensive literature review of evidence of urban planning measures linked to health. The evidence was then grouped into planning principles and indicators developed and adjusted for the local context.

2. Developed by researchers, environmental officers and planners through an iterative and participatory process.

3. Tested with end users and the government agency responsible for local planning.
The tool creation process

Health evidence analysis

Outcome debugger process (expert consultation)

Principles

Quantitative indicators

Qualitative indicators

Completing with sustainability evidence (if needed)

Expert testing

Tool to assist city planners to incorporate measures that promote and protect health and wellbeing through SEA
Core objectives

1. Development of compact neighbourhoods, with a mixed land use, high street connectivity that prioritizes active and public transport use and the development of a medium to high population density;

2. Reduction of private motorized transport;

3. Promotion of walking, cycling, public transport use and the enabling of multi-modality;

4. Liberation of public space and the development of green and public open space.
Tool to assist city planners to incorporate measures that promote and protect health and wellbeing through SEA

Indicator checklist for healthy urban and transport planning

1. Land use mix
2. Street connectivity
3. Density
4. Traffic calming
5. Walking
6. Cycling
7. Public transport
8. Multi-modality
9. Green and public open space
10. Integration of all planning principles
## PLANNING PRINCIPLE

### 1. LAND USE MIX

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Is the proportion of green and public open space appropriate?</td>
</tr>
<tr>
<td></td>
<td>Is the proportion of built environment appropriate?</td>
</tr>
<tr>
<td></td>
<td>• Is the proportion allocated to roads and parking appropriate?</td>
</tr>
<tr>
<td></td>
<td>• Is the proportion allocated to buildings appropriate?</td>
</tr>
<tr>
<td></td>
<td>• Is there a mix between residential and non-residential building function?</td>
</tr>
<tr>
<td></td>
<td>Are there numerous, diverse destinations in direct proximity?</td>
</tr>
</tbody>
</table>

**Note:**
- ‘Walkable’ destinations are those within a ≤ 300 m street network distance.
- ‘Cyclable’ destinations are those within a ≤ 5 km street network distance.
Land use mix

City of Justice (Barcelona)

City center /Eixample (Barcelona)
Tool to assist city planners to incorporate measures that promote and protect health and wellbeing through SEA

<table>
<thead>
<tr>
<th>3. DENSITY</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Is a medium to high dwelling density provided?</td>
<td>☐</td>
</tr>
<tr>
<td>100 dwellings/ha (range: 45-175 dwellings/ha)</td>
<td></td>
</tr>
<tr>
<td>Is a low to mid-rise building form provided?</td>
<td>☐</td>
</tr>
<tr>
<td>≤ 5-6 storey buildings that can be ‘walked-up’</td>
<td></td>
</tr>
<tr>
<td>Is a human scale with sky visibility within normal sight lines retained?</td>
<td>☐</td>
</tr>
<tr>
<td>50º above horizontal is normal angle of sight</td>
<td></td>
</tr>
<tr>
<td>Is horizontal sprawl (i.e. low density development) avoided?</td>
<td>☐</td>
</tr>
<tr>
<td>↓ Low density development</td>
<td></td>
</tr>
<tr>
<td>Is vertical sprawl (i.e. high-rise building development) avoided?</td>
<td>☐</td>
</tr>
<tr>
<td>↓ High-rise building development</td>
<td></td>
</tr>
<tr>
<td>Is the housing surface per capita appropriate?</td>
<td>☐</td>
</tr>
<tr>
<td>≥ 30 m²/ capita</td>
<td></td>
</tr>
</tbody>
</table>
Tool to assist city planners to incorporate measures that promote and protect health and wellbeing through SEA

<table>
<thead>
<tr>
<th>9. GREEN AND PUBLIC OPEN SPACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is universal access (100% of population) to green and public open space provided?</td>
</tr>
<tr>
<td>Is there sufficient public open and green space?</td>
</tr>
<tr>
<td>Is a major local green space provided?</td>
</tr>
<tr>
<td>Is a district green space provided?</td>
</tr>
<tr>
<td>Is a regional green space provided?</td>
</tr>
<tr>
<td>Is continuous surrounding greenness provided? (e.g. green corridors, street trees, green patches, pocket parks, etc.)</td>
</tr>
<tr>
<td>Are walking and cycling infrastructures integrated into the local green space system?</td>
</tr>
</tbody>
</table>
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10. INTEGRATION OF ALL PLANNING PRINCIPLES
Are the land use mix, connectivity, density, traffic calming, walking, cycling, public transport, multi-modality and public open/ green space objectives developed simultaneously and integrated?
Integration of all planning principles
Conclusions

- The tool raises awareness about the interlinkages between health, environment and urban planning and it provides a mechanism for explicitly and intentionally integrate them in urban planning.

- The planning principles indicators could be adapted to other cities worldwide.

- The multi-sector (administration, researchers, planners,...) and multi-perspective (sustainability, health, urbanism) approach has resulted in a great learning experience and has provided a new way of working together based on mutual trust.
Other outcomes thus far

It’s not just the product but the process…..

- Increased collaboration between local government and research
- Increased collaboration with private sector and other sectors
- Development of specialized training, new tools and methodologies
- Increased presence in media
- Diversification in types of projects and funding
- Publications with added value of impact in society
Lessons Learned

It takes

- Time to build relationships, trust, and a shared language
- Flexibility on all sides and willingness to take risks
- Many iterations to get to a product (that still might not be final)
- Buy-in from leadership
- Recognition that change comes from below and above
- Developing a shared vision
- More meetings (but more effective)
- Capacity building depending on the task or process
- A little funding (that can go a long way)
Next steps

- The tool will be available via web to facilitate its use in the first stages of decision making in urban planning.
- The tool is part of the SEA process
- Follow-up and tool improvement through implementation
- Adaptation to other contexts
Thank you for your attention!

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Indicator checklist for healthy urban and transport planning